REMARKS

Claims 1-3, 12-13, 26, 27, 31-33, and 37-39 are pending. Claims 1, 26 and 37 have been amended.

Applicants thank the Examiner for withdrawing the rejections under 35 U.S.C. § 112, second paragraph; under 35 U.S.C. § 102(b) over U.S. Patent No. 5,674,698 to Zarling et al.; and under 35 U.S.C. § 103(a) over U.S. Patent No. 5,770,358 to Dower et al. in view of Zarling.

Rejection under 35 U.S.C. § 112, second paragraph

The Examiner rejected claims 1-3, 12-13, 26-27, 31-33, and 37-39 under 35 U.S.C. § 112, second paragraph, for indefiniteness (see page 4 of the Office Action). The Examiner states that the claim language "an alloy thereof, or a mixture thereof" is indefinite (see pages 4-5 of the Office Action). Applicants amended independent claims 1, 26 and 37 to clarify the language of the claims and to overcome the rejection. Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejections under 35 U.S.C. § 102(e)

Weiss

The Examiner rejected claims 1-3, 12-13, 26-27, 31-33, and 37-39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,990,479 to Weiss et al. ("Weiss") (see page 5 of the Office Action). The Examiner argues that the glass coating is the support (see page 6 of the Office Action). Applicants respectfully disagree. Claim 1, 26 and 37 are independent.

Claim 1 relates to a library of compounds, wherein each compound in the library is bound to an individual support, each support having associated therewith more than one population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission, wherein each nanocrystal includes a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV semiconductor, an alloy of a Group II-VI semiconductor and a Group III-V semiconductor, an alloy of a Group II-VI semiconductor and a Group IV semiconductor, an alloy of a Group III-V semiconductor and a Group IV semiconductor, an alloy of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor, a mixture of a Group II-VI semiconductor and a Group III-V semiconductor, a mixture of a Group II-VI

semiconductor and a Group IV semiconductor, a mixture of a Group III-V semiconductor and a Group IV semiconductor, or a mixture of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor.

Claim 26 relates to a chemical library including a plurality of member chemicals, wherein each member chemical is bound to a support, each support having associated therewith more than one population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission, wherein each nanocrystal includes a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV semiconductor, an alloy of a Group II-VI semiconductor and a Group III-V semiconductor, an alloy of a Group II-VI semiconductor and a Group IV semiconductor, an alloy of a Group III-V semiconductor and a Group IV semiconductor, an alloy of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor, a mixture of a Group II-VI semiconductor and a Group III-V semiconductor, a mixture of a Group II-VI semiconductor and a Group IV semiconductor, a mixture of a Group III-V semiconductor and a Group IV semiconductor, or a mixture of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor.

Claim 37 relates to a library of polypeptides including a plurality of polypeptides, wherein each polypeptide in the library is bound to an individual support, each support having associated therewith more population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission and wherein each nanocrystal includes a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV semiconductor, an alloy of a Group II-VI semiconductor and a Group III-V semiconductor, an alloy of a Group II-VI semiconductor and a Group IV semiconductor, an alloy of a Group III-V semiconductor and a Group IV semiconductor, an alloy of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor, a mixture of a Group II-VI semiconductor and a Group III-V semiconductor, a mixture of a Group II-VI semiconductor and a Group IV semiconductor, a mixture of a Group III-V semiconductor and a Group IV semiconductor, or a mixture of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor.

The specification defines a "solid support" as "an insoluble material to which compounds are attached during a synthesis sequence" (see page 28, lines 8-9 of the specification). The specification further provides examples of solid supports as including pellets, disks, capillaries,

hollow fibers, needles, pins, solid fibers, cellulose beads, pore-glass beads, silica gels, polystyrene beads optionally cross-linked with divinylbenzene, grafted co-poly beads, poly-acyrlamide beads, latex beads, dimethylacrylamide beads optionally crosslinked with N--N'-bis-acryloylethylenediamine, and glass particles coated with a hydrophobic polymer (see page 28, lines 14-19 of the specification).

Weiss does not describe a support associated with more than one population of semiconductor nanocrystals. The glass coating described in Weiss is associated with one nanocrystal only, not with more than one population of semiconductor nanocrystals (see Weiss at col. 7, lines 26-31). Unlike the claimed support, the glass coating in Weiss does not provide a material to which compounds are attached but provides a surface on the nanocrystal that will readily associate with the linking agent (see Weiss at col. 7, lines 18-36). In other words, Weiss's coating is not a support.

Thus, Weiss does not disclose all elements of claims 1, 26 and 37. Accordingly, claims 1, 26 and 37, and the claims which depend therefrom are not anticipated by Weiss. Applicants respectfully request reconsideration and withdrawal of this rejection.

Frankel

The Examiner rejected claims 1, 3, 12-13, 26-27, 32, 33, 37 and 39 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,096,496 to Frankel ("Frankel") (see page 6 of the Office Action). The Examiner argues Frankel teaches "tagged beads . . . wherein the tag can be semiconductor nanocrystals including Group III-V particularly GaAs" (see pages 6-7 of the Office Action). Applicants respectfully disagree. Claim 1, 26 and 37 are independent.

Claim 1 relates to a library of compounds, wherein each compound in the library is bound to an individual support, each support having associated therewith more than one population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission, wherein each nanocrystal includes a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV semiconductor, an alloy of a Group II-VI semiconductor and a Group III-V semiconductor, an alloy of a Group II-VI semiconductor and a Group IV semiconductor, an alloy of a Group III-V semiconductor and a Group IV semiconductor, an alloy of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor, a mixture of a

Group II-VI semiconductor and a Group III-V semiconductor, a mixture of a Group II-VI semiconductor and a Group IV semiconductor, a mixture of a Group III-V semiconductor and a Group IV semiconductor, or a mixture of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor.

Claim 26 relates to a chemical library including a plurality of member chemicals, wherein each member chemical is bound to a support, each support having associated therewith more than one population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission, wherein each nanocrystal includes a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV semiconductor, an alloy of a Group II-VI semiconductor and a Group III-V semiconductor, an alloy of a Group II-VI semiconductor and a Group IV semiconductor, an alloy of a Group III-V semiconductor and a Group IV semiconductor, an alloy of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor, a mixture of a Group II-VI semiconductor and a Group III-V semiconductor, a mixture of a Group II-VI semiconductor and a Group IV semiconductor, a mixture of a Group III-V semiconductor and a Group IV semiconductor, or a mixture of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor.

Claim 37 relates to a library of polypeptides including a plurality of polypeptides, wherein each polypeptide in the library is bound to an individual support, each support having associated therewith more population of semiconductor nanocrystals, each population having a distinct characteristic spectral emission and wherein each nanocrystal includes a Group II-VI semiconductor, a Group III-V semiconductor, a Group IV semiconductor, an alloy of a Group II-VI semiconductor and a Group III-V semiconductor, an alloy of a Group II-VI semiconductor and a Group IV semiconductor, an alloy of a Group III-V semiconductor and a Group IV semiconductor, an alloy of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor, a mixture of a Group II-VI semiconductor and a Group III-V semiconductor, a mixture of a Group II-VI semiconductor and a Group IV semiconductor, a mixture of a Group III-V semiconductor and a Group IV semiconductor, or a mixture of a Group II-VI semiconductor, a Group III-V semiconductor, and a Group IV semiconductor.

Frankel describes beads transmitting a distinct electromagnetic code. Frankel, however, does not disclose that each bead or support is associated with more than one population of

semiconductor nanocrystals, each population having a distinct characteristic spectral emission.

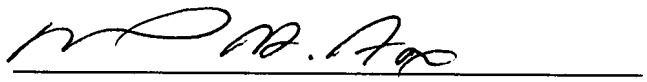
Thus, Frankel does not disclose all elements of claims 1, 26 and 37. Accordingly, claims 1, 26 and 37, and the claims which depend therefrom are not anticipated by Frankel. Applicants respectfully request reconsideration and withdrawal of this rejection.

CONCLUSION

In light of the foregoing amendments and remarks, Applicants respectfully submit that all requirements for patentability are met and ask that all claims be allowed. Please apply any charges or credits to deposit account 19-4293.

Respectfully submitted,

Date: 12-4-07



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